

## DC-8 11/10/16

**Aircraft:**

[DC-8](#) ([See full schedule](#))

**Flight Number:**

1157

**Payload Configuration:**

OIB-ATM NAV/ATM GPS/ATM-T5/T6/ATM FLIR/ATM CAMBOT MCoRDS/SNOW/Ku RADAR DMS/POS-AV  
GRAVIMETER & ARMAS (piggyback)

**Nav Data Collected:**

Yes

**Total Flight Time:**

10.9 hours

**Comments:**

Good flight. A ramp overpass calibration was flown at 2000 ft AGL at the start of the mission. This was a repeat flight from previous years, designed to assess dh/dt of several glaciers draining into the Larsen-A, -B, and -C embayments. All the science instruments performed well. Weather was excellent with some minor cloud coverage. The aircraft came back with two writeups. Postflight replaced a bid wire on the #2 fuel pressure gauge to repair that. Also, did some work on the landing gear handle resistance writeup. Both checked good for flight.

**Submitted by:**

Timothy Moes on 11/13/16

**Flight Segments:**

|                           |  |                |                  |
|---------------------------|--|----------------|------------------|
| <b>From:</b>              | SCCI - Punta Arenas                                    | <b>To:</b>     | SCCI             |
| <b>Start:</b>             | 11/10/16 13:03 Z                                       | <b>Finish:</b> | 11/10/16 23:59 Z |
| <b>Flight Time:</b>       | 10.9 hours   |                |                  |
| <b>Log Number:</b>        | <a href="#">178010</a>                                 | <b>PI:</b>     | Nathan Kurtz     |
| <b>Funding Source:</b>    | Bruce Tagg - NASA - SMD - ESD Airborne Science Program |                |                  |
| <b>Purpose of Flight:</b> | Science  |                |                  |

**Flight Hour Summary:**

|                                       |               |
|---------------------------------------|---------------|
|                                       | <b>178010</b> |
| <b>Flight Hours Approved in SOFRS</b> | 300           |
| <b>Total Used</b>                     | 306.9         |
| <b>Total Remaining</b>                | -6.9          |

**178010 Flight Reports**

| Date                                | Flt # | Purpose of Flight | Duration | Running Total | Hours Remaining |
|-------------------------------------|-------|-------------------|----------|---------------|-----------------|
| <a href="#">10/04/16</a>            | 1135  | Science           | 4        | 4             | 296             |
| <a href="#">10/05/16</a>            | 1136  | Science           | 2.7      | 6.7           | 293.3           |
| <a href="#">10/12/16</a>            | 1138  | Transit           | 10.9     | 17.6          | 282.4           |
| <a href="#">10/12/16</a>            | 1139  | Transit           | 3        | 20.6          | 279.4           |
| <a href="#">10/14/16 - 10/15/16</a> | 1140  | Science           | 10.9     | 31.5          | 268.5           |
| <a href="#">10/15/16 - 10/16/16</a> | 1141  | Science           | 11.8     | 43.3          | 256.7           |
| <a href="#">10/17/16 - 10/18/16</a> | 1142  | Science           | 11.8     | 55.1          | 244.9           |
| <a href="#">10/20/16 - 10/21/16</a> | 1143  | Science           | 11.4     | 66.5          | 233.5           |
| <a href="#">10/22/16</a>            | 1144  | Science           | 11       | 77.5          | 222.5           |
| <a href="#">10/24/16 - 10/25/16</a> | 1145  | Science           | 11.5     | 89            | 211             |
| <a href="#">10/25/16 - 10/26/16</a> | 1146  | Science           | 11.3     | 100.3         | 199.7           |
| <a href="#">10/26/16 - 10/27/16</a> | 1147  | Science           | 12.1     | 112.4         | 187.6           |
| <a href="#">10/27/16 - 10/28/16</a> | 1148  | Science           | 11.5     | 123.9         | 176.1           |
| <a href="#">10/28/16 - 10/29/16</a> | 1149  | Science           | 11       | 134.9         | 165.1           |
| <a href="#">10/31/16 - 11/01/16</a> | 1150  | Science           | 11       | 145.9         | 154.1           |
| <a href="#">11/02/16 - 11/03/16</a> | 1151  | Science           | 11.2     | 157.1         | 142.9           |
| <a href="#">11/03/16 - 11/04/16</a> | 1152  | Science           | 11.5     | 168.6         | 131.4           |
| <a href="#">11/04/16 - 11/05/16</a> | 1153  | Science           | 11.1     | 179.7         | 120.3           |
| <a href="#">11/05/16 - 11/06/16</a> | 1154  | Science           | 11.7     | 191.4         | 108.6           |

|                                     |      |         |      |       |      |
|-------------------------------------|------|---------|------|-------|------|
| <a href="#">11/07/16 - 11/08/16</a> | 1155 | Science | 11.2 | 202.6 | 97.4 |
| <a href="#">11/09/16 - 11/10/16</a> | 1156 | Science | 11.7 | 214.3 | 85.7 |
| <a href="#">11/10/16</a>            | 1157 | Science | 10.9 | 225.2 | 74.8 |
| <a href="#">11/11/16 - 11/12/16</a> | 1158 | Science | 11.3 | 236.5 | 63.5 |
| <a href="#">11/12/16 - 11/13/16</a> | 1159 | Science | 11.1 | 247.6 | 52.4 |
| <a href="#">11/14/16</a>            | 1160 | Science | 10.9 | 258.5 | 41.5 |
| <a href="#">11/15/16 - 11/16/16</a> | 1161 | Science | 11.6 | 270.1 | 29.9 |
| <a href="#">11/17/16 - 11/18/16</a> | 1162 | Science | 11.1 | 281.2 | 18.8 |
| <a href="#">11/18/16 - 11/19/16</a> | 1163 | Science | 11.1 | 292.3 | 7.7  |
| <a href="#">11/21/16</a>            | 1165 | Transit | 11.6 | 303.9 | -3.9 |
| <a href="#">11/21/16</a>            | 1164 | Transit | 3    | 306.9 | -6.9 |

Flight Reports began being entered into this system as of 2012 flights. If there were flights flown under an earlier log number the flight reports are not available online.

#### Related Science Report:

### OIB - DC-8 11/10/16 Science Report

#### Mission:

OIB

#### Mission Summary:

Mission: North Peninsula (priority: baseline)

This is a repeat flight, designed to assess  $dh/dt$  of several glaciers draining into the Larsen-A, -B, and -C embayments. From north to south, these glaciers are the Drygalski, Hektor, Crane, Melville, Starbuck, Flask, Leppard, Attlee, Gould, Demarest, Gibbs, and Weyerhauser. In addition to these glaciers, we repeat two lines over Scar Inlet, several flowlines on the Larsen-C Ice Shelf, and four north-south tie lines over the Larsen-C, including overflights of three AWS stations and several areas of stagnant ice so that contributions of surface processes to  $dh/dt$  can be assessed independently of dynamic processes. Finally we overfly the Gipps (in the south) and Bawden (north) Ice Rises on the eastern edge of the Larsen-C, since these may contribute to the stability of the ice shelf.

The Antarctic Peninsula has some of the most difficult weather on the entire Antarctic continent, and this season has been no exception. It also happens to fall in a part of the continent where little or no high-resolution weather satellite imagery is available during our morning flight decision window. This forces us to rely almost solely on forecast models for this region, which often do not perform well there because of the complex terrain. This morning we had the benefit of one rather limited, though positive, weather satellite image, and of several positive forecasts which we have had several weeks to compare with imagery to assess their fidelity under a variety of circumstances. The forecasts showed a cessation for today of the strong westerlies that typically blanket the Peninsula in cloud due to orographic uplift, as well as light foehn winds on the lee side which we expected to keep the Weddell Sea coastal fog at bay. We encountered the clear and calm conditions we expected, losing only small amounts of science data at a few spots on the ridgeline, and near the calving front of the northern Larsen-C ice shelf, where we encountered a few clouds.

All instruments performed well, with the exception of the FLIR camera. The FLIR encountered a data system settings issue which resulted in the loss of all data from roughly the first half of the mission. We do not expect a repetition of this particular problem.

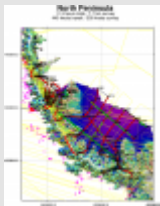
We conducted a ramp pass at 2000' on departure.

Data volumes:  
AIRGrav: 5 Gb  
ATM: 39 Gb  
CAMBOT: 35 Gb  
DMS: 79 Gb  
FLIR: 4 Gb (lost first half of mission due to data system issue)  
Ku-Band Radar: 699 Gb  
MCoRDS: 2.7 Tb  
Narrow Swath ATM: 0 Gb (idle today)  
Snow Radar: 699 Gb

total data collection time: 7.0 hrs

## Images:

### Map of North Peninsula mission



[Read more](#)

### Brabant Island



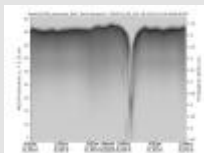
[Read more](#)

### Larsen-C rift



[Read more](#)

### Radar image of rift



[Read more](#)

### Peninsula mountains



[Read more](#)

**Submitted by:**

John Sonntag on 11/13/16

## [NASA Home](#)

Page Last Updated: April 22,  
2017

Page Editor: Erin Justice

NASA Official: Bruce A.  
Tagg

- [Budgets, Strategic Plans  
and Accountability  
Reports](#)
- [Equal Employment  
Opportunity Data  
Posted Pursuant to the  
No Fear Act](#)
- [Information-  
Dissemination Policies  
and Inventories](#)
  
- [Freedom of Information  
Act](#)
- [Privacy Policy &  
Important Notices](#)
- [NASA Advisory  
Council](#)
- [Inspector General  
Hotline](#)
- [Office of the Inspector  
General](#)
- [NASA  
Communications Policy](#)
  
- [Contact NASA](#)
- [Site Map](#)
- [USA.gov](#)
- [Open Government at  
NASA](#)